

AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior versions of claims in the application.

1. (Original): Photolinker macromolecule, which is a saccharide-based polymer that contains photoactivable groups apt to be activated at a wavelength of at least 320 nm, and sulfur-containing groups, the sulfur-containing groups being selected from the group consisting of thiol (-SH), thioacid (-COSH), dithioacid (-CSSH), sulfide (-S-) and disulfide (-SS-), attached to a metallic substrate.
2. (Original): Macromolecule of claim 1, covalently bonded to a biomolecule in an active form.
3. (Currently amended): Macromolecule of claim 1 [[or 2]], wherein the polysaccharide is selected from the group consisting of agarose, dextran, carrageenan, alginic acid, starch, and cellulose, and a derivative thereof.
4. (Currently amended): Macromolecule of ~~any of any of claims 1 or 2~~ claim 1, wherein the polysaccharide is dextran, in particular amino-dextran or carboxymethyl-dextran.
5. (Original): Macromolecule of claim 4, wherein the saccharide is amino-dextrane or carboxydextrane, the total amino functions or carboxy functions available for subsequent functionalization with both the photoactivatable groups and the sulfur-containing groups being 0.01 to 0.5 mol per mol glucose monomer.
6. (Currently amended): Macromolecule of ~~any of any of the preceding claims~~ claim 1, wherein the photoactivable groups are selected from the group consisting of aryldiazirines and benzophenones.

7. (Currently amended): Macromolecule of ~~any of the preceding claims~~ claim 1, wherein the photoactivable groups are selected from the group consisting 4-(p-azidosalicylamido)butylamine, N-hydroxysuccinimidyl-4-azidosalicylic acid, p o-phenone-4-maleimide, 4-benzylbenzoic adic succinimidyl ester, or -azidophenyl-isothiocyanate, benzophenone-4-isothiocyanate, benz 3-(trifluoromethyl)-3-(m-isothiocyanophenyl) diazirine

8. (Currently amended): Macromolecule of ~~any of the preceding claims~~ claim 1, wherein the metal is selected from the group of aluminum, copper, gold, palladium, platinum and silver.

9. (Original): Sensing surface of biosensor, which comprises a macromolecule of claim 2.

10. (Original): Microarray, which comprises a macromolecule of claim 2.

11. (Original): Nanoparticle, nanoassembly or microparticle comprising a macromolecule of claim 2.

12. (Original): Method of preparing a preparing a photolinker macromolecule of claim 1 which comprises derivatizing a polysaccharide by multiple substitution with photoactivable groups and sulfur-containing groups, and attaching the derivatized saccharide to a metal by chemisorption or sulfur-metal complex formation processes.

13. (Currently amended): Method of preparing a macromolecule of claim 2 which comprises submitting a mixture of a photolinker macromolecule ~~of claim 1~~ which is a saccharide-based polymer that contains photoactivable groups apt to be activated at a wavelength of at least 320 nm, and sulfur-containing groups, the sulfur-containing groups being selected from the group consisting of thiol (-SH), thioacid (-COSH), dithioacid (-CSSH), sulfide (-S-) and

disulfide (-SS-), attached to a metallic substrate and a biomolecule in an active form to a photoreaction at wavelength of at least 320 nm, in the absence of any incident light below 320 nm.

14. (New): Macromolecule of claim 2, wherein the polysaccharide is selected from the group consisting of agarose, dextran, carrageenan, alginic acid, starch, and cellulose, and a derivative thereof.

15. (New): Macromolecule of claim 2, wherein the polysaccharide is dextran, in particular amino-dextran or carboxymethyl-dextran.

16. (New): Macromolecule of claim 15, wherein the saccharide is amino-dextrane or carboxydextrane, the total amino functions or carboxy functions available for subsequent functionalization with both the photoactivatable groups and the sulfur-containing groups being 0.01 to 0.5 mol per mol glucose monomer.